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on the glass plates, which, being properly arranged and numbered, the tints observed can be easily registered. The instrument, mounted on a tripod, may be conveniently placed near the telescope for observation.

It is highly important that, in all observations with an instrument of this kind, the flame of the lamp should always be of the same intensity. This may be secured by a simple arrangement in the construction of the lamp and the burner. The construction of the instrument ensures permanency of tint in every other respect.

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## *Results of the Meridional Observations of Small Planets; Occultations of Stars by the Moon; and Phenomena of Jupiter's Satellites: observed at the Royal Observatory, Greenwich, during the months of June to October, 1861.*

(*Communicated by the Astronomer Royal.*)

### *Iris* ⑦.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, June 5 | 9 55 0·1 | 14 52 12·22 | 109 52 52·70 |
| 12 | 9 23 6·8 | 14 47 49·58 | ...... |

### *Irene* ⑭.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Oct. 4 | 13 54 11·2 | 2 49 5·82 | 85 6 19·01 |
| 11 | 13 21 52·4 | 2 44 17·64 | 85 32 41·28 |
| 22 | 12 29 31·3 | 2 35 10·04 | 86 13 6·78 |
| 26 | 12 10 9·7 | 2 31 31·46 | 86 26 30·64 |

### *Phocæa* ㉕.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Sept. 20 | 12 18 24·9 | 0 17 51·36 | 65 43 23·93 |
| 26 | 11 50 33·2 | 0 13 35·10 | 67 34 32·82 |
| 27 | 11 45 55·0 | 0 12 52·76 | 67 54 11·71 |
| 30 | 11 32 2·8 | 0 10 47·92 | 68 54 43·27 |
| Oct. 4 | 11 13 41·3 | 0 8 9·61 | 70 18 14·85 |
| 9 | 10 51 5·8 | 0 5 13·14 | 72 5 4·88 |
| 11 | 10 42 11·6 | 0 4 10·62 | 72 48 3·05 |
| 19 | 10 7 30·7 | 0 0 56·37 | 75 36 38·05 |

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## *Calliope* ㉒.

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Sept. 12 | 11 12 25·4 | 22 40 9·31 | 120 47 44·84 |
| Oct. 4 | 9 31 33·1 | 22 25 44·66 | 120 21 49·34 |

## *Bellona* ㉘.

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Sept. 23 | 13 1 35·4 | 1 12 59·30 | 93 17 12·29 |
| Oct. 11 | 11 37 21·9 | 0 59 29·91 | 95 27 52·16 |
| 14 | 11 23 13·2 | 0 57 8·58 | 95 46 52·83 |
| 22 | 10 45 49·0 | 0 51 10·66 | 96 30 55·27 |

## *Urania* ㉚.

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, June 27 | 11 52 14·4 | 18 16 30·02 | 115 22 39·46 |
| July 4 | 11 17 8·8 | 18 8 54·64 | 115 19 3·65 |
| 11 | 10 42 33·5 | 18 1 49·51 | 115 12 54·83 |

## *Ariadne* ㊸.

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Sept. 10 | 13 56 51·2 | 1 17 9·01 | 75 32 46·37 |
| Oct. 11 | 11 26 51·5 | 0 48 57·79 | 78 24 5·09 |
| 14 | 11 12 9·8 | 0 46 3·36 | 78 46 39·54 |
| 19 | 10 47 58·9 | 0 41 31·32 | 79 24 28·19 |
| 22 | 10 33 41·0 | 0 39 0·68 | 79 46 29·44 |

## *Nysa* ㊹.

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, June 15 | 11 19 30·1 | 16 56 21·70 | 107 57 28·05 |

## *Europa* (52).

| | Mean Solar Time of Observation. | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Oct. 4 | 12 7 18·3 | 1 1 55·42 | 93 56 7·94 |
| 22 | 10 43 46·1 | 0 49 7·39 | 95 22 52·42 |

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## *Pseudo-Daphne* (56).

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Sept. 3 | 9 33 5·8 | 20 25 4·37 | 97 36 41·29 |
| 5 | 9 25 11·9 | 20 25 2·31 | 97 51 51·54 |
| 12 | 8 58 33·7 | 20 25 55·59 | 98 43 11·06 |

## *Niobe* (71).

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1861, Aug. 19 | 12 19 43·9 | 22 13 1·62 | 89 55 19·32 |

All the observations of N.P.D. have been corrected for refraction and parallax, excepting that of *Niobe*, which has been corrected for refraction only.

## *Occultations of Stars by the Moon.*

| Day of Obs. | Phenomenon. | Moon's Limb. | Mean Solar Time. | Observer. |
|---|---|---|---|---|
| | | | h m s | |
| 1861, June 25 | 18 Aquarii, disapp. | Bright | 11 39 59·1 | D. |
| Sept. 14 | ϖ Capricorni, disapp. | Dark | 8 3 44·0 | E. |
| 14 | ϱ Capricorni, disapp. | Dark | 9 17 44·1 | E. |
| 14 | ϱ Capricorni, reapp. (*a*) | Bright | 10 29 55·3 | E. |
| Oct. 20 | ξ Arietis, disapp. | Bright | 7 16 34·0 | N. |
| 22 | 103 Tauri, disapp. | Bright | 12 35 58·4 | M. D. |

(*a*), Perhaps doubtful to one or two seconds.

The initials D., E., M. D., and N. are those of Mr. Dunkin, Mr. Ellis, Mr. Dolman, and Mr. Newcomb.

## *Phenomena of Jupiter's Satellites.*

| Day of Observation. | Satellite. | Phenomenon. | Mean Solar Time. | Observer. |
|---|---|---|---|---|
| 1861. | | | h m s | |
| June 12 | I. | Occ. disapp, first cont. | 9 57 15·0 | C. |
| 12 | I. | ,, total disapp. | 9 59 44·5 | C. |
| 13 | I. | Egress, bisected. (*a*) | 9 40 51·5 | J. C. |

(*a*) The planet very tremulous and diffused.

The initials C. and J. C. are those of Mr. Criswick and Mr. Carpenter.